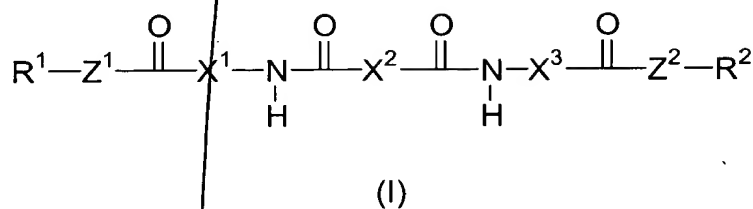


5 What is Claimed:

1. A compound of Formula (I):



wherein:

- 10 Z<sup>1</sup> and Z<sup>2</sup> are independently -NR<sup>3</sup>- (wherein R<sup>3</sup> is hydrogen or alkyl) or -O-;  
R<sup>1</sup> and R<sup>2</sup> are independently substituted alkyl, substituted aryl, heteroaryl, or substituted heteroaryl provided that at least one of R<sup>1</sup> and R<sup>2</sup> is a group that can form a pharmaceutically acceptable acid addition salt;  
R<sup>3</sup> is hydrogen, alkyl or R<sup>3</sup> and R<sup>1</sup> or R<sup>2</sup> together with the atoms to which they are  
15 attached form a heterocyclic ring;  
X<sup>2</sup> is aryl, substituted aryl, heteroaryl, substituted heteroaryl, alkenyl, alkynyl, cycloalkyl or heterocyclic;  
X<sup>1</sup> and X<sup>3</sup> are independently aryl, substituted aryl, heteroaryl, substituted heteroaryl, or -CHR<sup>4</sup>, wherein R<sup>4</sup> is natural or unnatural amino acid side chain;  
20 or a pharmaceutically acceptable acid addition salt thereof.

2. The compound of Claim 1, wherein Z<sup>1</sup> and Z<sup>2</sup> are -NH-.

3. The compound of Claim 2, wherein X<sup>2</sup> is aryl, substituted aryl, heteroaryl or  
25 substituted heteroaryl.

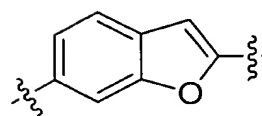
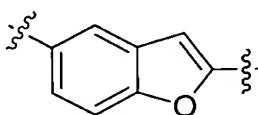
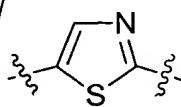
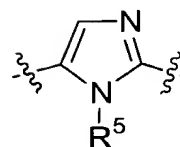
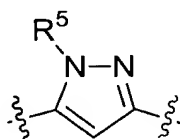
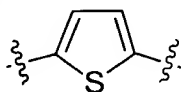
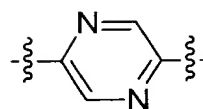
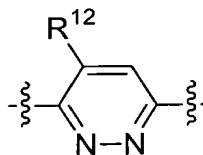
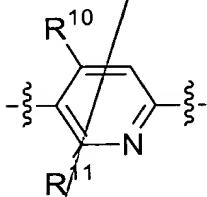
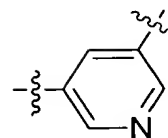
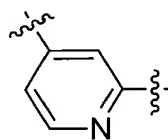
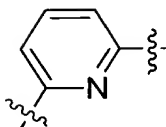
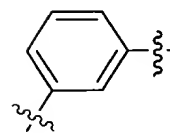
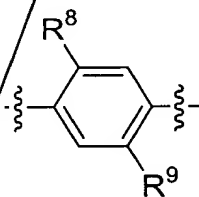
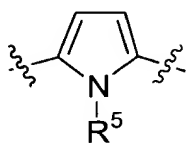
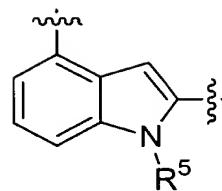
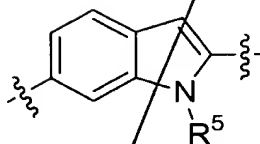
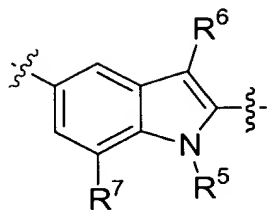
4. The compound of Claim 2, wherein R<sup>1</sup> and R<sup>2</sup> are independently substituted alkyl groups.

5. The compound of Claim 3, wherein X<sup>2</sup> is an aryl, substituted aryl, heteroaryl or substituted heteroaryl moiety selected from a group consisting of the following moieties:

*Indole*

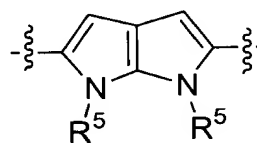
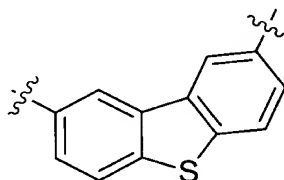
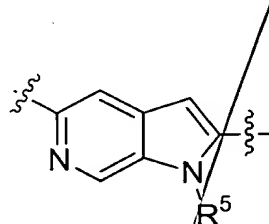
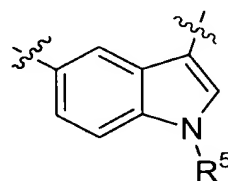
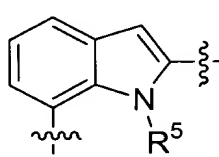
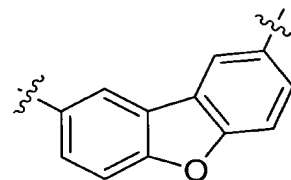
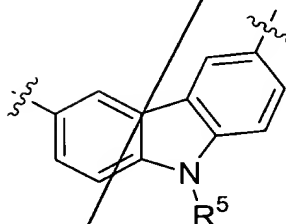
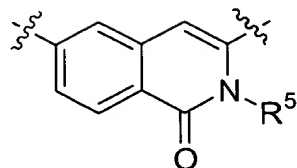
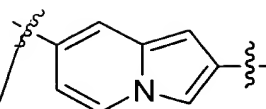
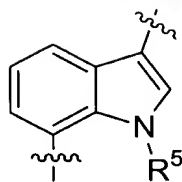
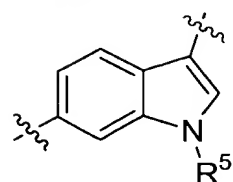
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wherein,

R<sup>5</sup> is hydrogen, alkyl or substituted alkyl;

R<sup>6</sup> is hydrogen, alkyl, halo or alkoxy;

R<sup>7</sup> is hydrogen, alkyl or halo;

15

R<sup>8</sup> is hydrogen, alkyl, substituted alkyl, alkoxy or halo;

R<sup>9</sup> is hydrogen, alkyl, substituted alkyl, alkoxy, nitro or halo;

R<sup>10</sup> is hydrogen or alkyl;

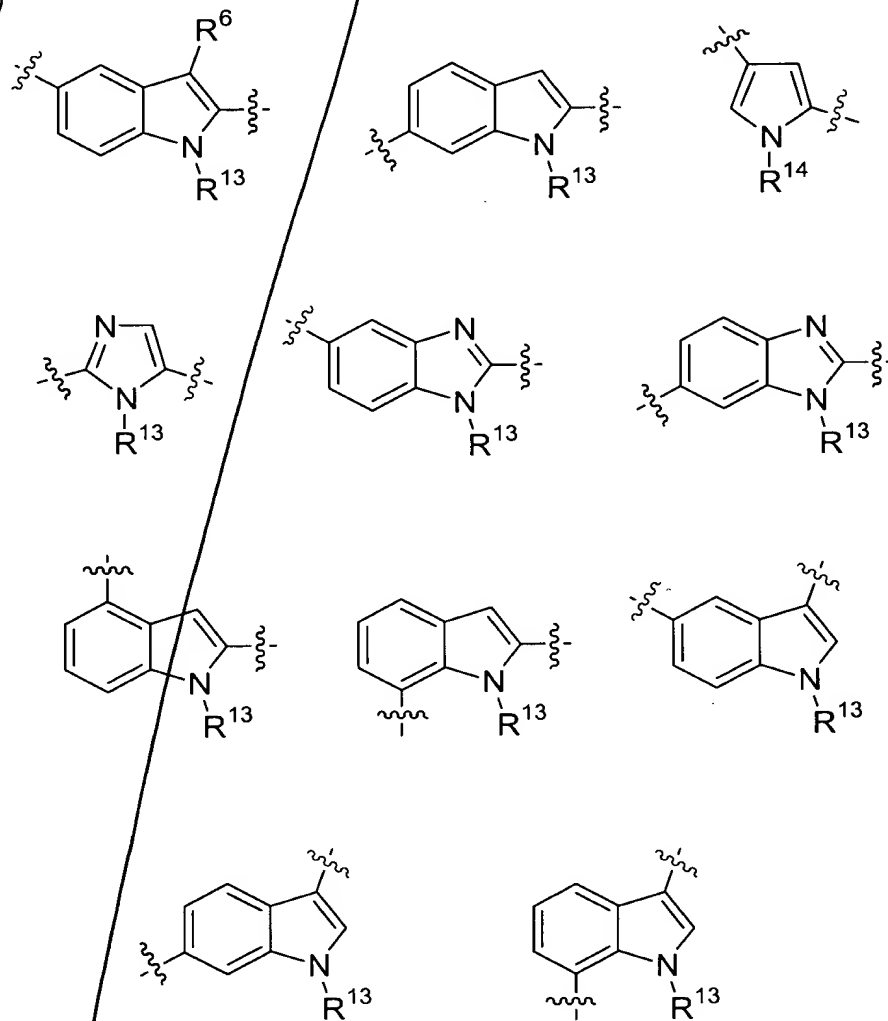
R<sup>11</sup> is hydrogen or alkyl; and,

R<sup>12</sup> is hydrogen or alkyl.

20

5

6. The compound of Claim 2, wherein  $X^1$  and  $X^3$  are heteroaryl or substituted heteroaryl moieties independently selected from a group consisting of the following moieties:

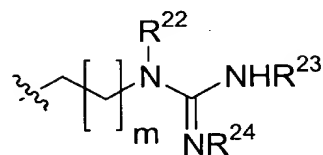
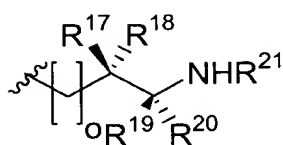
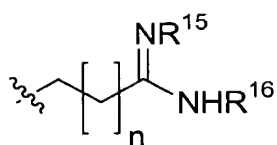


wherein

$R^{13}$  is hydrogen or alkyl; and,

$R^{14}$  is hydrogen, alkyl or substituted alkyl.

7. The compound of Claim 4, wherein  $R^1$  and  $R^2$  are substituted alkyl moieties independently selected from a group consisting of the following moieties:



5

wherein

$R^{15}$  is hydrogen, hydroxyl, alkoxy, alkyl, cycloalkyl or  $R^{15}$  and  $R^{16}$  together with the atoms to which they are attached form a heterocyclic ring;

$R^{16}$  is hydrogen, hydroxyl, alkyl or cycloalkyl;

10

$R^{17}$ ,  $R^{18}$ ,  $R^{19}$  and  $R^{20}$  are independently hydrogen or alkyl;

$R^{21}$  is hydrogen alkyl, substituted alkyl, cycloalkyl or acyl;

$R^{22}$  is hydrogen or alkyl, or  $R^{22}$  and  $R^{23}$  together with the atoms to which they are attached form a heterocyclic ring, or  $R^{22}$  and  $R^{24}$  together with the atoms to which they are attached form a heterocyclic ring.

15

$R^{23}$  is hydrogen, hydroxyl, alkyl, cycloalkyl or  $R^{23}$  and  $R^{24}$  together with the atoms to which they are attached form a heterocyclic ring;

$R^{24}$  is hydrogen, hydroxyl or alkyl;

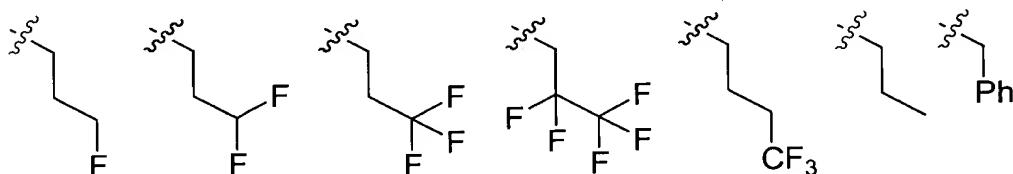
$m$  is 1, 2 or 3;

$n$  is 1, 2 or 3; and,

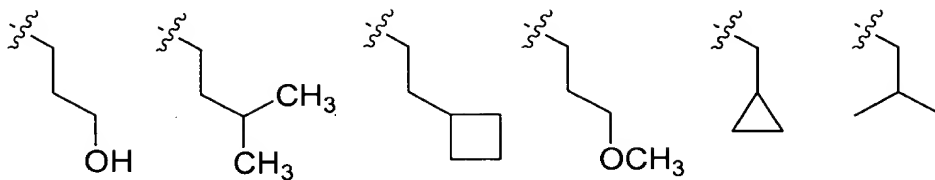
20

$o$  is 0, 1, 2 or 3.

8. The compound of Claim 6, wherein  $R^{14}$  is an alkyl or substituted alkyl moiety, and wherein the moiety is selected from a group consisting of the following moieties:

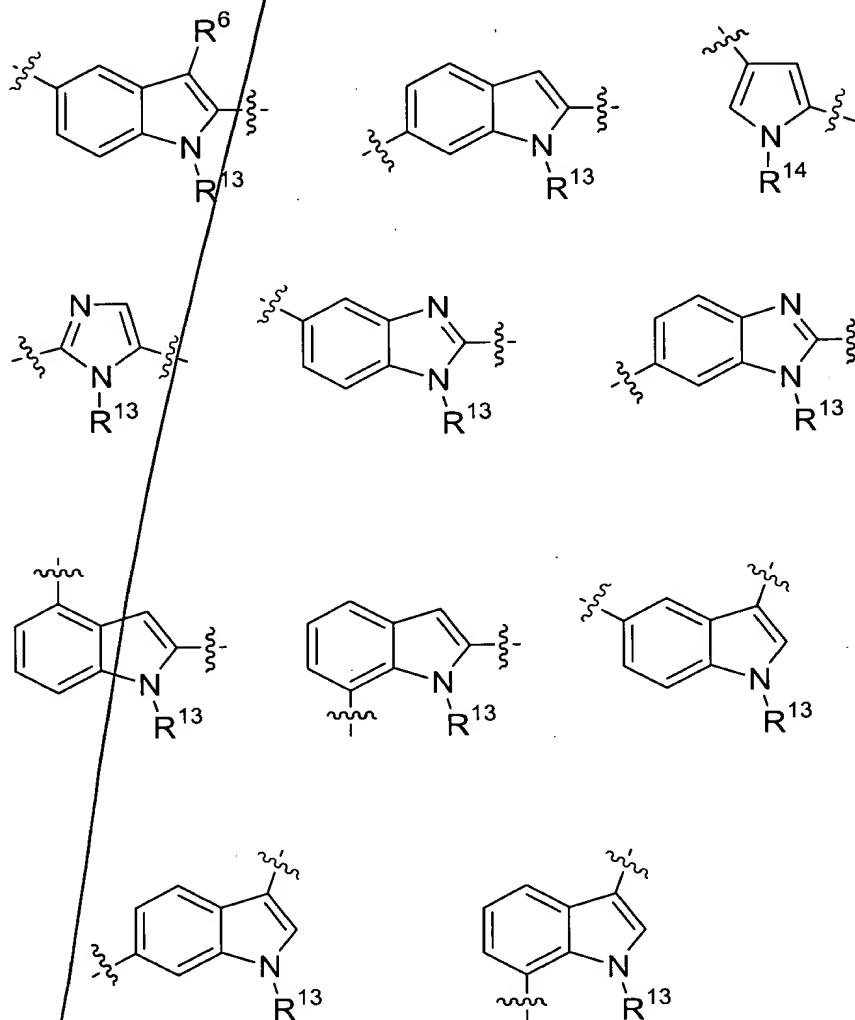


25



5

9. The compound of Claim 5, wherein  $X^1$  and  $X^3$  are heteroaryl or substituted heteroaryl moieties independently selected from a group consisting of the following moieties:



15 wherein

$R^{13}$  is hydrogen or alkyl;

$R^{14}$  is hydrogen, alkyl or substituted alkyl;

- 5 and wherein  $R^1$  and  $R^2$  are substituted alkyl moieties independently selected from a group consisting of the following moieties:



wherein

- 10  $R^{15}$  is hydrogen, hydroxyl, alkoxy, alkyl, cycloalkyl or  $R^{15}$  and  $R^{16}$  together with the atoms to which they are attached form a heterocyclic ring;

$R^{16}$  is hydrogen, hydroxyl, alkyl or cycloalkyl;

$R^{17}$ ,  $R^{18}$ ,  $R^{19}$  and  $R^{20}$  are independently hydrogen or alkyl;

$R^{21}$  is hydrogen alkyl, substituted alkyl, cycloalkyl or acyl;

- 15  $R^{22}$  is hydrogen or alkyl, or  $R^{22}$  and  $R^{23}$  together with the atoms to which they are attached form a heterocyclic ring, or  $R^{22}$  and  $R^{24}$  together with the atoms to which they are attached form a heterocyclic ring.

$R^{23}$  is hydrogen, hydroxyl, alkyl, cycloalkyl or  $R^{23}$  and  $R^{24}$  together with the atoms to which they are attached form a heterocyclic ring;

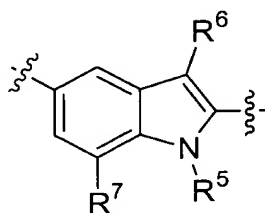
- 20  $R^{24}$  is hydrogen, hydroxyl or alkyl;

m is 1, 2 or 3;

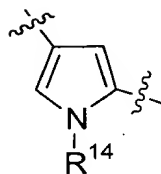
n is 1, 2 or 3; and,

o is 0, 1, 2 or 3.

- 25 10. The compound of Claim 9, wherein  $X^2$  is

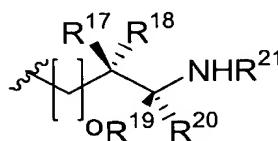


11. The compound of Claim 9, wherein  $X^1$  and  $X^3$  are both



5

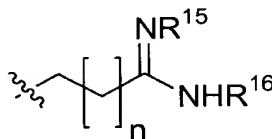
12. The compound of Claim 10, wherein  $R^1$  and  $R^2$  are of the following structure:



wherein

- $R^{17}$  and  $R^{18}$  are hydrogen; and,  
 $R^{21}$  is hydrogen, alkyl or acyl.

13. The compound of Claim 11, wherein  $R^1$  and  $R^2$  are of the following structure:



wherein

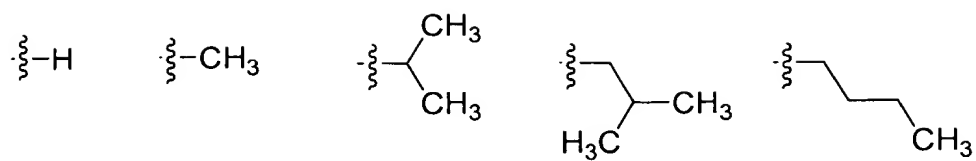
- $R^{15}$  and  $R^{16}$  are hydrogen; and,  
 $n$  is 1 or 2.

14. The compound of Claim 12, wherein  $R^{19}$  and  $R^{20}$  are hydrogen, and wherein  $R^{21}$  is an alkyl group selected from a group consisting of methyl, ethyl and propyl, or an acyl moiety of the structure  $-C(O)C(R^{25})(R^{26})H$ ,

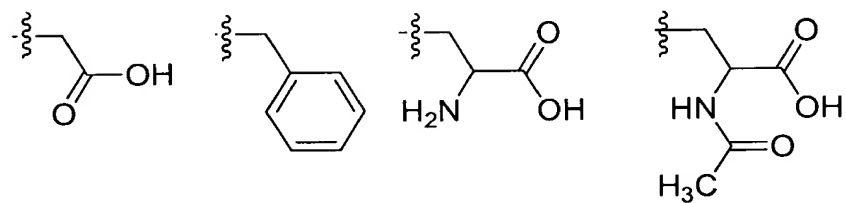
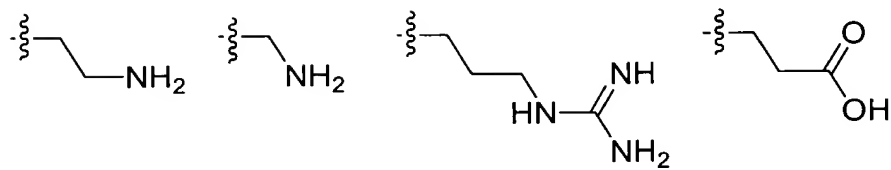
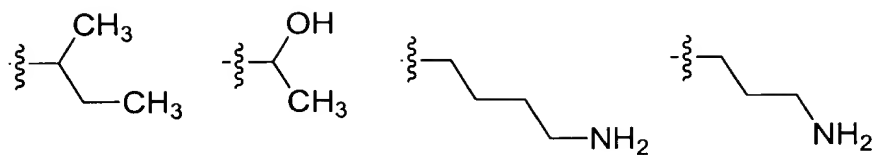
wherein

- $R^{25}$  is a substituent selected from a group consisting of the following substituents:

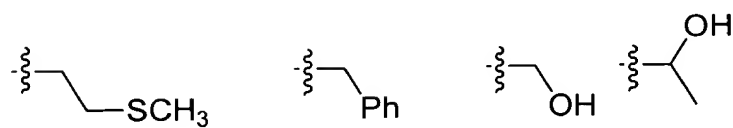
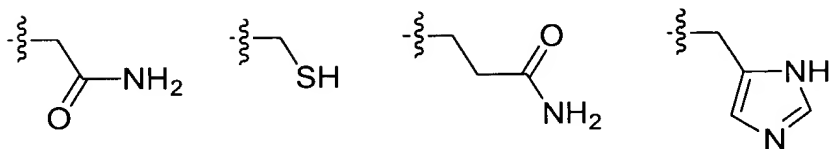




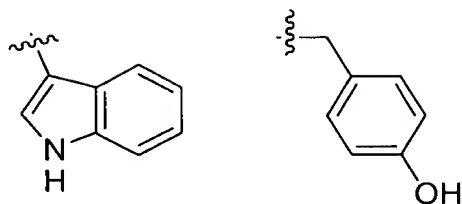
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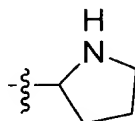


15



5

or  $R^{25}$  and  $R^{26}$  together with the atom to which they are attached form a heterocyclic ring of the following structure:



and wherein  $R^{26}$  is a substituent selected from a group consisting of the following substituents: -H, -NH<sub>2</sub> and -NHCH<sub>3</sub>.

15. The compound of Claim 12, wherein  $R^1$  and  $R^2$  are independently of one of the following structures:



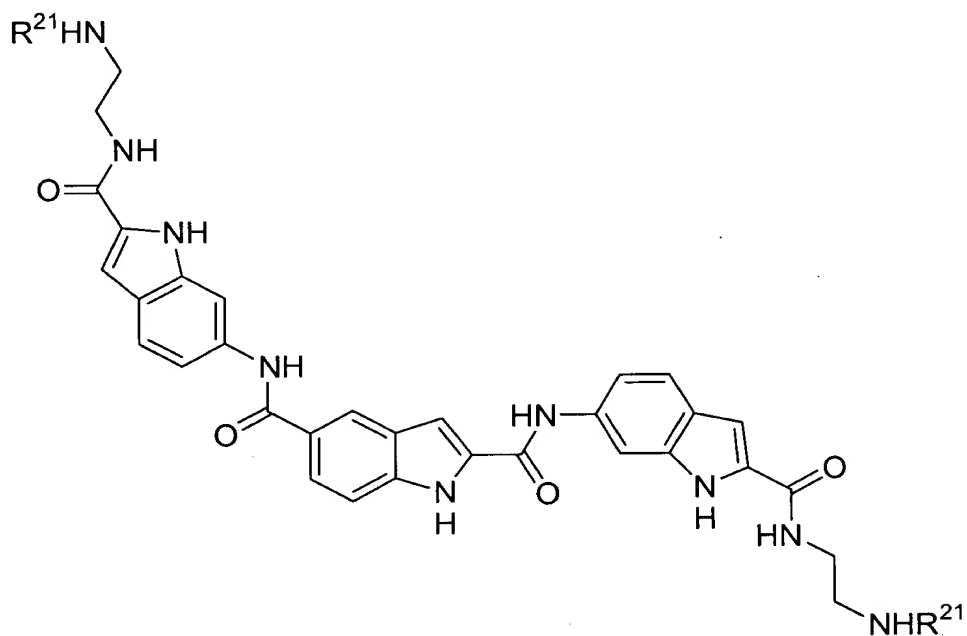
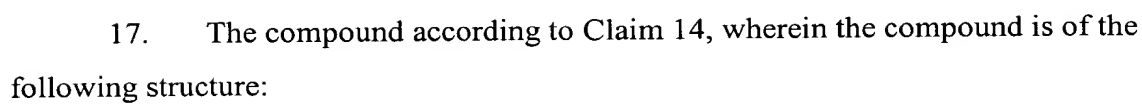
wherein

$R^{19}$  and  $R^{20}$  are independently hydrogen or alkyl; and,

$R^{21}$  is hydrogen, alkyl or acyl.

20

16. The compound of Claim 13, wherein  $R^{14}$  is an alkyl or substituted alkyl moiety, and wherein the moiety is selected from a group consisting of the following moieties:



18. The compound according to Claim 16, wherein the compound is of the following structure:



10



15



Z<sup>1</sup> and Z<sup>2</sup> are independently -NR<sup>3</sup>- (wherein R<sup>3</sup> is hydrogen or alkyl) or -O-;

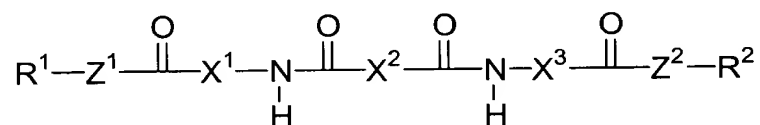
5           R<sup>1</sup> and R<sup>2</sup> are independently substituted alkyl, substituted aryl, heteroaryl, or substituted heteroaryl provided that at least one of R<sup>1</sup> and R<sup>2</sup> is a group that can form a pharmaceutically acceptable acid addition salt;

          R<sup>3</sup> is hydrogen, alkyl or R<sup>3</sup> and R<sup>1</sup> or R<sup>2</sup> together with the atoms to which they are attached form a heterocyclic ring;

10          X<sup>2</sup> is aryl, substituted aryl, heteroaryl, substituted heteroaryl, alkenyl, alkynyl, cycloalkyl or heterocyclic;

          X<sup>1</sup> and X<sup>3</sup> are independently aryl, substituted aryl, heteroaryl, substituted heteroaryl, or -CHR<sup>4</sup>, wherein R<sup>4</sup> is natural or unnatural amino acid side chain; or a pharmaceutically acceptable acid addition salt thereof.

15           20.    A method of inhibiting topoisomerase, wherein the method comprises administration of a therapeutically effective amount of a compound of Formula (I):



(I)

wherein:

          Z<sup>1</sup> and Z<sup>2</sup> are independently -NR<sup>3</sup>- (wherein R<sup>3</sup> is hydrogen or alkyl) or -O-;

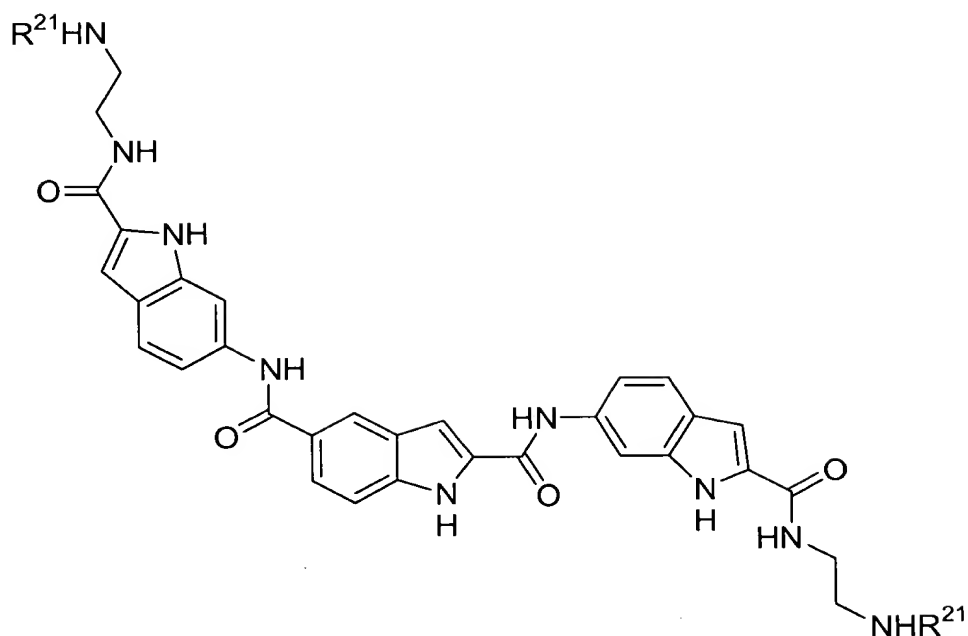
20          R<sup>1</sup> and R<sup>2</sup> are independently substituted alkyl, substituted aryl, heteroaryl, or substituted heteroaryl provided that at least one of R<sup>1</sup> and R<sup>2</sup> is a group that can form a pharmaceutically acceptable acid addition salt;

          R<sup>3</sup> is hydrogen, alkyl or R<sup>3</sup> and R<sup>1</sup> or R<sup>2</sup> together with the atoms to which they are attached form a heterocyclic ring;

25          X<sup>2</sup> is aryl, substituted aryl, heteroaryl, substituted heteroaryl, alkenyl, alkynyl, cycloalkyl or heterocyclic;

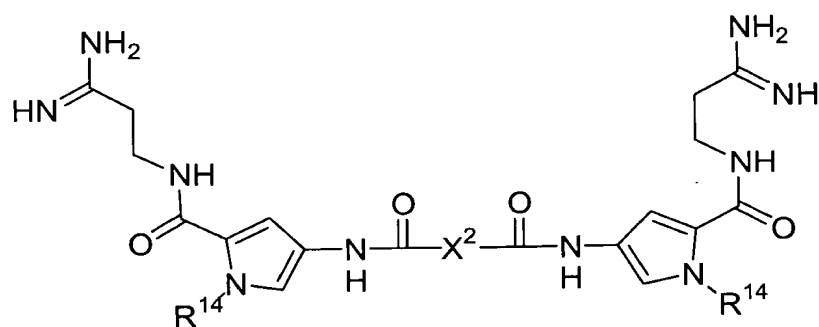
          X<sup>1</sup> and X<sup>3</sup> are independently aryl, substituted aryl, heteroaryl, substituted heteroaryl, or -CHR<sup>4</sup>, wherein R<sup>4</sup> is natural or unnatural amino acid side chain; or a pharmaceutically acceptable acid addition salt thereof.

30           21.    A method of treating bacterial infections, wherein the method comprises administration of a therapeutically effective amount of the following compound:

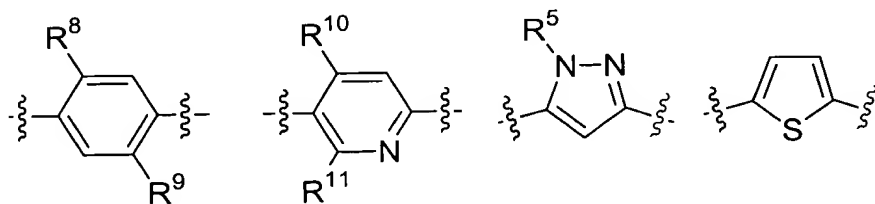


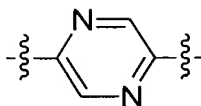
wherein  $R^{21}$  is hydrogen, alkyl, substituted alkyl, cycloalkyl or acyl.

22. A method of treating fungal infections, wherein the method comprises administration of a therapeutically effective amount of the following compound:



wherein  $R^{14}$  is hydrogen,  $-\text{CH}_2\text{CH}_2\text{CH}(\text{CH}_3)_2$  or  $-\text{CH}_2(\text{C}_3\text{H}_5)$ , and wherein  $X^2$  is a moiety selected from a group consisting of the following moieties:





5

wherein

$R^5$  is hydrogen, alkyl or substituted alkyl;

$R^8$  is hydrogen, alkyl, substituted alkyl, alkoxy or halo;

10  $R^9$  is hydrogen, alkyl, substituted alkyl, alkoxy, nitro or halo;

$R^{10}$  is hydrogen or alkyl; and,

$R^{11}$  is hydrogen or alkyl.

23. A method of treating a bacterial or fungal infection, wherein the bacterial or  
15 fungal strain is selected from a group consisting of the following strains: *c. albicans*, *a.*  
*fumigatus*, *b. cereus*, *h. influenzae* and *p. aeruginosa*.

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